

# 2019

## Early Childhood Systems Building Resource Guide: Program Design and Implementation



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State Capacity Building Center

# Early Childhood Systems Building Resource Guide: Program Design and Implementation

Program design and implementation are central to state work in support of effective, quality services for children and their families. “Program Design and Implementation,” chapter 6 of *Systems Building Resource Guide*, provides state leaders with 1) information about a structured process to support program design and implementation, 2) examples from states and local jurisdictions, and 3) tools and resources. This guide serves as an introduction for state leaders and their partners as they plan and launch early care and education programs.

## Program Design and Implementation Overview

Public sector programs have special responsibility to be accountable and to have a positive impact. Well-designed public sector programs that are effectively implemented set a strong foundation for achieving results for children and families.

### Guiding Principles for Planning

Sound state early childhood programs demand close, careful attention to planning. Five key elements to incorporate into state-level program planning follow:

1. **Be inclusive, transparent, and influential.** Involve a variety of stakeholders, ensure that the planning process is transparent, and include those who can influence state policies.
2. **Be driven by current research and a theory of change.** Base your planning on current research and have a framework that guides decisions toward a clear endpoint.
3. **Account for the realities of each state’s policy and political context.** Take realistic stock of each state’s current policies and policy instruments; understand stakeholders’ opinions and public and political support.
4. **Aim for a set of actionable priorities.** Establish both short- and long-term priorities; identify quick wins as they build momentum.
5. **Include an afterlife.** Commit to regular review and revision.<sup>1</sup>

### What Is Program Implementation, and Why Is It Important?

Program implementation is about making a program work. It includes who, what, where, and how a program is set up and run. Early childhood initiatives work within contexts that are complex, fragmented, and often vulnerable to changes in political and economic climates—all things that can work with or against a program’s ability to achieve results. Effective implementation is more than a contributing factor in setting initiatives up for success. Research shows that the quality of implementation plays a significant part in bringing about outcomes.<sup>2</sup> If a program is implemented poorly or even moderately well, its goals are unlikely to be achieved, or the results will be less significant.

### Technical Assistance in Systems Building for State Leaders

Technical assistance to support systems building, including strategic planning, is available through the State Capacity Building Center. Technical assistance may be available through other federal technical assistance centers. Please check with your State Systems Specialist for more information.

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With high-quality implementation, success is more likely. Effectively implemented programs stand a better chance of achieving intended outcomes and producing positive results for children.

Numerous frameworks can guide implementation. Two of the most widely recognized in the human service and education fields are Plan-Do-Check-Act<sup>3</sup> (PDCA)—also referred to as Plan-Do-Study-Act (PDSA) or the Deming Cycle—and the National Implementation Research Network’s implementation stages.<sup>4</sup> Cross-cutting themes that unify these frameworks include the following:

- Determine the desired result
- Plan, plan, plan
- Use feedback loops, monitor, and learn continuously and at all levels
- Recognize that work occurs simultaneously; implementation is not a linear process
- Collect and use data
- Be flexible and adaptive
- Collaborate with those internal and external to the agency or organization

This guide uses PDCA to frame program design and planning and discusses additional insights and information from implementation science.

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## The Contribution of Implementation Science

Implementation science is the study of the process for implementing programs and practices that have some evidence from the research field to suggest that they are worth replicating.<sup>5</sup> Implementation science helps with the move from policy and research to a fully operational program—that is, what it takes to make a program successful in the field.

In the field of implementation science, three categories of drivers or infrastructure support the design and implementation of a program: competency drivers, organization drivers, and leadership drivers. Each driver has a set of associated practices or activities, such as staffing, teams, communications, decision-making processes, and leadership actions.

These three drivers should be integrated and should compensate for each other.

- *Integrated* means that actions or activities build on—rather than contradict or duplicate—one another. For example, staff training should not include topics in which staff already have expertise.
- Drivers should also be compensatory, meaning that if an agency has a weakness in one area, other areas should be able to compensate. For example, if an agency has limited funds for training, it may need to be selective when hiring to ensure that new staff already have the skills and expertise needed, rather than relying on training.<sup>6</sup>

When implementing a state program, many staff members at various levels will be involved, including those who set state policy, those from intermediary organizations that play significant roles in supporting and operationalizing the program, and those on the ground who deliver services to children and families. As you review the drivers, bear in mind the implications for staff at each level.

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## Competency, Organization, and Leadership Drivers<sup>7</sup> and Assessing Performance on Them

### Competency Drivers

Competency drivers develop, improve, and sustain the ability to implement an early childhood education (ECE) program. Competency is built through the selection, coaching, and training of staff who will implement the program. It applies to those working at all levels of program design and implementation, including staff from the state, staff from early childhood professional organizations (intermediary organizations), and staff from direct-service early childhood programs.

- **Selection:** Selection is about recruiting, interviewing, and ultimately hiring the right staff—people who can successfully carry out their role in the program, whether at the state, intermediary, or direct-service levels. Consider the following questions: What knowledge, skills, abilities, and characteristics are needed? What is the best method for recruiting and selecting the staff? What are the criteria for selecting the staff?<sup>8</sup>
- **Training:** Training that is specific to the program, helps staff learn about the new approach, and offers opportunities to practice can be critical to implementation success. Training can include information on the history, theory, philosophy, and values of the program; knowledge of the parts of and rationales for key practices; and opportunities to practice new skills and receive feedback in a supportive environment.
- **Coaching:** Coaching—or on-the-job support—is an essential complement to training, as training alone is insufficient to achieve successful program implementation. Coaching occurs on the job and is designed to help individuals use the program or innovation as intended. Recommended coaching practices include developing a coaching plan that stipulates where, when, with whom, and why coaching will occur; using multiple sources of data to provide feedback to practitioners, including direct observation; and using coaching data to improve practice and fidelity.

Performance assessment provides an opportunity to use data to learn how well things are working and whether changes should be made that support staff (at any level) in implementing the initiative. Connect performance assessment to the outcomes of selection, training, and coaching. The following are recommended practices for assessing the performance<sup>9</sup> of staff at all levels—state, intermediary, and provider:

- Develop and use transparent staff performance assessments.
- Use multiple sources of data (for example, checklists, self-assessments, and direct observation).
- Use positive recognition so that assessments are seen as an opportunity to improve.
- Use performance assessment data to improve practice and organizational fidelity.
- Clarify roles and accountability for measuring and reporting performance assessment results (for example, the lead person is designated and supported).
- Ensure that staff members are oriented to the processes and procedures used for performance assessment.

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The following are some examples of performance assessment questions:

- Questions for **state-level staff**

- Do we have the right criteria for selecting staff to review proposals from intermediary organizations to implement the initiative?
- Do we have the right criteria for selecting staff to manage the contracts?
- Do we have the right criteria for selecting a contractor?
- Have we provided state staff with training and coaching that support them in the design, start-up, and ongoing management of the work?

- Questions for **intermediary-organization staff**

- Do we have the right criteria for selecting staff to work with direct-service providers?
- Do we have the right criteria for selecting staff who can work with state staff?
- Have we provided staff with training and coaching that support them in their roles?

- Questions for **provider-level staff**

- Have we selected the right staff to participate in the launch of this initiative?
- Have we provided these people with the necessary training to successfully implement the new program?
- Have we provided staff with appropriate ongoing coaching for them to successfully implement the new program?

## Organization Drivers

Organization drivers are elements of systems and organizations. These drivers support promising environments for effective program delivery. They are often called “enabling context” and can be achieved by establishing and using feedback loops, competency drivers, and performance and outcome data for continuous quality improvement.<sup>10</sup> Three key organization drivers are decision-support data systems, facilitative administration, and systems intervention.

## Decision-Support Data System

The decision-support data system is a process for identifying, collecting, and using data at all levels of implementation (in other words, state, intermediary partners, and direct-service organizations). This driver is about conditions for understanding and using data; examples include frequent reporting of reliable data; data as part of everyday routines; and wide sharing of data with staff, family members, and community stakeholders. In short, this driver is about accessible data that is used at every level to make decisions. Consider the following examples:

- In direct services, teachers use data from observations of their practice to increase their understanding. Directors and teachers use data to establish professional development goals and plans. Directors use data to identify areas needing improvement and make budget decisions using data.
- At the intermediary level, technical assistance (TA) organizations use data from classrooms and programs they support to develop new resources and identify additional skills that TA providers need.
- At the state level, aggregated data are used to make decisions about which professional development activities might need an increase or decrease in funding and what new areas might need support.



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## Facilitative Administration

Facilitative administration uses a decision-support data system, clear communication, and feedback loops to monitor how the program is functioning and to make improvements. Leadership and implementation teams often activate this driver, which applies to state, intermediary, and direct-service staff.

Tips for supporting facilitative administration include the following:

- Ensuring that leadership (state, intermediary, and direct service) is committed and addresses challenges
- Creating and using feedback loops and communication protocols that span state, intermediary, and direct-service staff
- Developing and adjusting state, intermediary, and direct-service policies, procedures, and guidelines to support the new work
- Reducing barriers to using the program
- Creating leadership or implementation teams

## Systems Interventions

Systems interventions help ensure available financial, organizational, and human resources for effective development and implementation. These systems supports are part of the context that helps deliver and sustain a program. Systems interventions help establish a supportive context so that direct services can be effectively delivered.

Recommended practices include the following:<sup>11</sup>

- Forming and supporting a leadership team that brings in representatives from all levels (state, intermediary, and direct service)
- Developing a process to ensure policy-to-practice feedback loops and two-way communication across (state, intermediary, direct service) and within (staff, managers, leadership) levels of the system
- Engaging and nurturing champions and opinion leaders

## Leadership Drivers

Leadership drivers<sup>12</sup> are the actions and behaviors of leaders. Implementation science identifies two types of leadership challenges: *technical* and *adaptive*. Each challenge has a distinctive set of characteristics and requires different leadership skills.

Typically, technical challenges involve the following circumstances:<sup>14</sup>

- Fairly clear agreement on the problem
- Agreement that the problem would be defined similarly by those impacted by it and those addressing it
- Clear pathways to solutions—that is, the path to a solution is largely known
- Clear management pathways—that is, the leader can form a team, make a plan, make decisions, hold people accountable, and execute the solution

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One of the biggest mistakes leaders make is incorrectly identifying the type of challenge they are facing. This leads to using the wrong set of strategies to solve the problem.

—Ronald Heifetz and Donald Laurie, “The Work of Leadership”<sup>15</sup>

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These qualities do not mean that technical challenges are easy, nor do they mean that there won’t be adjustments to the plan to address technical challenges. Technical challenges respond well to a traditional management approach in which problems are defined; solutions are generated; resources are garnered; and tasks are assigned, managed, and monitored. An “in charge” leader guides the overall process.

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In contrast to technical challenges, adaptive challenges exhibit the following qualities:

- Are not “solved” through traditional management approaches
- Show legitimate competing perspectives—different views of the problem and different perspectives on what a viable solution might be
- Have a less clear definition of the problem
- Show multiple perspectives on the issue at hand
- Have less clear practical solutions and implementation pathways
- Involve collective responsibility (across multiple organizations, people, or both) for defining a solution
- Need a shift in values, practices, and relationships

State leaders can expect to face both technical and adaptive leadership challenges during planning and implementation.

Solving adaptive challenges requires adaptive leadership. Adaptive leadership aligns well with the social service sector, where leaders typically operate within a complex environment without full autonomy or authority. The following questions can help identify adaptive leadership qualities:<sup>16</sup>

- How well do you know your organization in terms of similarities and differences between individuals and groups, staff attitudes (toward innovation, clients, partner organizations, management, and each other), organizational climate, and organizational strengths and gaps?
- Do you track societal trends (for example, budgets, demographics, politics, economics, and technology) and organizational trends (for example, staff performance and stability and client outcomes) and reflect on their potential future impact on the organization? If you do not track trends, why not?
- How well do you collaborate with peers in other parts of your agency and other public or private agencies that affect your organization’s operations and clients? To what extent do leaders champion collective strategies to build common purpose?
- Do you and your organization’s leaders shake up the organization when needed (for example, changing long-standing processes or policies or making key staff changes to pave the path for new ways of working)? What drives these changes? Are your decisions proactive or reactive? Does the organization help staff develop new competencies?
- How able are you and your organization’s leaders to adjust mid-course when new information is available to suggest a different approach? What are some specific examples? What inhibits organizational adjustments?
- How effectively do you and your organization’s leaders ensure that short-and long-term changes get planned and implemented effectively? How does leadership
  - secure staff, client, and external stakeholder buy-in for change;
  - empower staff at all levels, the clients, and external stakeholders to create changes; and
  - set clear expectations for staff, clarify boundaries, empower staff within those boundaries, support staff in their implementation work, and hold staff accountable for follow-through?



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- To what extent does leadership ensure that plans get adjusted based on lessons learned during implementation? How effective is communication of short and long-term changes to staff, customers, and stakeholders?
- How sensitive are you and your organization's leaders to the effects of changes in the organization and environment on staff, clients, and external stakeholders? To what extent do leaders reflect on those effects and accordingly adjust, for example, the pace and scope of change and the way they communicate about organizational changes? To what extent do leaders reflect on their own strengths and barriers and work to leverage their strengths and overcome their barriers?

For more information on adaptive leadership, see the Resources section of this guide.

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## Examples of Drivers

We provide three examples of how drivers work in designing and implementing state early childhood programs. The first example focuses on implementation of developmental screening. The second example addresses Wisconsin's implementation of the Pyramid Model. The third example—infant/toddler quality improvement—is adapted from the work of Paulsell and colleagues.<sup>17</sup>

### A Statewide Developmental Screening Program

This developmental screening example is made from a combination of distinct state actions and decisions.

#### State Level

- A leadership team was developed to include senior staff from across agencies who were involved in the following projects: Individuals with Disabilities Education Act (IDEA) Part C and Part B, prekindergarten programs, quality rating and improvement system (QRIS), a technical assistance organization (contractor), Head Start, child care licensing, home visiting, the workforce registry, and higher education (*facilitative administration*).
- Ages and Stages Questionnaire: Social-Emotional (ASQ:SE) was selected as the screener and distributed to a network of family and community engagement organizations (*technical leadership*).
- The state contracted with an intermediary organization (*professional development provider*) to train direct-service providers (*staff selection*).
- For the initial rollout, the leadership team focused on programs that were most likely to be successful in integrating the Ages and Stages tool into their program policies and practices, namely, programs at the top two levels of the QRIS (*facilitative administration and adaptive leadership*).
- The state developed partnerships with the medical community (pediatricians, family practice, and mental health) to support the use of developmental screening instruments (*adaptive leadership*).
- Funding was allocated to provide substitutes so that direct-service providers could attend training on the ASQ:SE (*decision-support data system and facilitative administration*).

#### Intermediary Level

- Training was provided to TA organization staff on how the tool can be used to help enhance parents' understanding of child development and to link families to community supports (*training and technical leadership*).
- Health ambassadors were integrated into the state's Help Me Grow program with the explicit goal of making more comprehensive referrals for families with young children, particularly into IDEA Part C (*adaptive leadership*).
- A nonprofit organization supported pediatricians and other health care providers with the proper knowledge to conduct screenings (*facilitative administration*).
- One challenge—duplicative data entry for some health provider practices—became known because of data and communication loops used by the intermediary (*systems interventions*).

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## Direct-Service-Provider Level

- Staffing schedules were adjusted so that teachers could attend training (*facilitative administration*).
- Directors requested support for teachers in communicating with families about results (*facilitative administration*).
- Modifications were made to parent and family handbooks and to talking points for parent tours and orientations to ensure that families knew about the use of developmental screening from the start (*technical leadership*).
- Directors signed up their programs to participate in information sessions and trainings on developmental screening (*facilitative administration*).
- Teachers built relationships with parents through ongoing communication. The establishment of a strong relationship makes it easier to share and receive news that can be difficult to hear (*technical leadership*).

## Wisconsin's Pyramid Model

Wisconsin established a goal of “comprehensive, cross-disciplinary professional development to support professionals working to ensure the social and emotional well-being of infants, young children, and their families.”<sup>18</sup> Using a three-year grant, Wisconsin selected the Pyramid Model, an evidence-based model for professional development that is implemented simultaneously at state, intermediary, and direct-service levels. Diverse early childhood settings adopted the model: child care, Head Start, and public schools.

Wisconsin's 2015 annual report illustrates the role of drivers (even though they are not named as such).<sup>19</sup> Below are some of the specific ways drivers were part of planning and implementation at the state, intermediary, and provider levels.

## Competency Drivers

- Recruitment
  - At the intermediary level, trainers were recruited through regional communities of practice and regional coaches.
- Coaching and training
  - At the intermediary level, trainers and coaches were trained on Pyramid Model content and staff responsibilities.
  - At the intermediary level, regional communities of practice were established to support trainers.
  - At the direct-service level
    - Regional communities of practice supported the needs of direct-service providers
    - Coaching was provided to site staff (teachers and program leadership)
    - Coaches used multiple sources of information for feedback to teachers
    - Program leadership teams attended a two-day “implementation academy” to prepare them for implementation

## Organizational Drivers

- Facilitative administration
  - At the state level
    - A state leadership team (SLT) from different systems and disciplines designed and oversaw implementation. Members included individuals from the departments of Children and Families, Health Services (Birth to Three Program), and Public

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Instruction, as well as higher education (including the technical college system), the Workforce Registry, the Division for Early Childhood, the state early childhood association, the Head Start State Collaboration Office, the Head Start Training and Technical Assistance system, an infant mental health organization, a parent-support organization, professional development, an organization focused on preventing child abuse and neglect, and Pyramid Model coordinators and coaches.

- The SLT met quarterly.
- Systems intervention
  - At the state level
    - The SLT created optimism by publishing an annual report that included achievements and progress.
    - SLT members were responsible for promoting support for the Pyramid Model within their departments or organizations.
    - The SLT nurtured external champions and opinion leaders. SLT members presented at numerous conferences and published a paper in a national journal. The SLT presented to the Legislative Committee on Supporting Early Brain Development. That committee developed policy suggestions including one to “integrate the Pyramid Model with coaching in the classroom into requirements for teacher, childcare provider, and home visitors.”<sup>20</sup>
- Decision-supported data systems
  - At the state level
    - Data related to implementation were presented and discussed at every meeting.
    - Quarterly leadership team meetings were held.
    - Rates of implementation were benchmarked and reported publicly in the annual report.
    - Site-level data were aggregated. This process revealed that it took one year of coaching for a teacher to reach fidelity on the Pyramid observation tool. These data also provided an opportunity for Wisconsin to compare its progress to national data.
  - At the direct-service level, internal coaches (those within the site) conducted observations and provided coaching until observation data showed that a teacher had achieved fidelity standards.

## Leadership Drivers

- Technical leadership
  - At the state level, a tool was developed to assess implementation progress, inform decisions, and plan next steps.
- Adaptive leadership
  - At the state level, the training content for the Pyramid Model was integrated into technical colleges’ early childhood curriculum.

Please see the Resources section of this guide for information on how to access Wisconsin’s Pyramid Model.

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## An Infant/Toddler Quality-Improvement Initiative

In *Measuring Implementation of Early Childhood Interventions at Multiple System Levels*, a brief by Paulsell, Austin, and Lokteff, a chart illustrates strategies, measures, and data collection methods of a statewide initiative to improve the quality of infant/toddler center-based care. The chart below was adapted from the chart in the brief by Paulsell and colleagues.<sup>21</sup> A column was added to identify the driver category and specific driver associated with each measure.

**Table 1. Adapted from *Measuring Implementation of Early Childhood Interventions at Multiple System Levels***

### Direct-Service-Provider Level

Strategy: Teachers implement an intervention to improve the quality of center-based infant/toddler care.

Constructs	Illustrative Measures	Data Collection Method	Category of Driver and Specific Driver
Selecting teachers for implementation	Practitioner assessment	Practitioner assessment	Competency driver selection
Implementation of new strategies by teachers	Practitioner assessment	Staff survey	Competency driver selection
Classroom quality	<ul style="list-style-type: none"> <li>▪ <i>Infant/Toddler Environment Rating Scale–Revised Edition (ITERS-R)</i><sup>a</sup></li> <li>▪ Classroom Assessment Scoring System (CLASS) Toddler Version<sup>b</sup></li> </ul>	Observation	<ul style="list-style-type: none"> <li>▪ Competency driver: performance assessment (performance assessment is highly correlated with intended outcomes)</li> <li>▪ Organization driver: decision-support data system (data are reliable; standardized tool is used)</li> </ul>

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Strategy: Center directors obtain grants to improve caregiving environments, purchase training for teachers on infant/toddler care, and facilitate access to onsite coaching and mentoring for infant/toddler teachers.

Constructs	Illustrative Measures	Data Collection Method	Category of Driver and Specific Driver
Delivery of training program	Competency driver: training <sup>c</sup>	Staff survey	Competency driver: training (performance assessment measures related to training)
Supervision or coaching	Satisfaction with training procedures and topics	Staff survey or interview	<ul style="list-style-type: none"> <li>Competency driver: coaching (satisfaction surveys from those coached)</li> <li>Organization driver: facilitative administration (solicits feedback)</li> </ul>
Supervision or coaching	Supervision or coaching	Staff survey or interview	Competency driver: coaching (coaches directly observe practitioners)
Supervision or coaching	Frequency of in-class coaching	Staff survey or training log	<p>Organization driver: decision-support data system (data reporting built into routines)</p> <p>Organization driver: facilitative administration (solicits feedback from staff)</p>
Supervision or coaching	Implementation of drivers: Assessing Best Practices coaching session <sup>d</sup>	Staff Survey	Competency driver: performance assessment
Supervision or coaching	Satisfaction with coaching; self-assessment of learning, behavior, and classroom changes	Staff survey or interview	Competency driver: coaching (satisfaction surveys from those being coached)



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## Intermediary Level—Implementing Agency

Strategy: Infant/toddler consultants assess caregiving environment using the ITERS-R, provide onsite coaching and mentoring for infant/toddler teachers and directors, and provide specialized training in infant/toddler development using a scripted curriculum.

Constructs	Illustrative Measures	Data Collection Method	Category of Driver and Specific Driver
Selection of quality improvement trainers	Trainer qualifications are commensurate with those specified in quality improvement (QI) program	Trainer survey, resume or application materials	Competency driver selection (prerequisites and qualifications for employment are related to the initiative)
Fidelity of program delivery	Content and dosage delivered as specified in the QI program	Observation or training logs	<p>Competency driver: performance assessment (performance measures extend beyond measurement of context and content; use of multiple data sources)</p> <p>Leadership driver: adaptive leadership (participating in and observing training)</p>

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## State Level

Strategy: The state Office of Child Care contracts with intermediary organizations to provide coaching.

Constructs	Illustrative Measures	Data Collection Method	Category of Driver and Specific Driver
Adequacy of funding to fulfill program requirements	Funding sources and adequacy to implement model as specified	Document reviews or administrator interviews	Leadership driver: adaptive leadership (soliciting feedback from practitioners and stakeholders)  Decision-support data systems (used to make decisions)
Alignment of training curriculum and characteristics of the service population	Documentation of model content, research base, psychometric data, and populations previously served	Document review	Leadership driver: adaptive leadership (alignment)
Frequency and content of TA	Frequency and content of TA and qualifications of TA providers	Staff pre- and post-training assessments or periodic TA needs assessments	Competency driver training (outcome data collected and analyzed; performance assessment measures related to training collected and analyzed)

<sup>a</sup>Harms, T. (2002). Infant/toddler Environment Rating Scale (Rev. ed.). New York, NY: Teachers College Press.

<sup>b</sup>Pianta, R. C., La Paro, K. M., & Hamre, B. (2009). Classroom Assessment Scoring System: Toddler version. Unpublished instrument.

<sup>c</sup>Blase, K., van Dyke, M., & Fixsen, D. (2013). Implementation drivers: Assessing best practices. Chapel Hill, NC: Frank Porter Graham Child Development Institute, University of North Carolina. Retrieved from [http://www.implementation.eu/sites/default/files/resources/implementation\\_drivers\\_assessing\\_best\\_practices.pdf](http://www.implementation.eu/sites/default/files/resources/implementation_drivers_assessing_best_practices.pdf)

<sup>d</sup>See note c.

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## Critical Elements of Planning and Implementing

*An Integrated Stage-Based Framework for Implementation of Early Childhood Programs and Systems* (a brief of the Administration for Children and Families' Office of Planning, Research and Evaluation) highlights the importance of teams and effective data and monitoring in planning and implementation.<sup>22</sup> Both topics are discussed in this section. For more details on the role of teams and the use of data, please see the Resources section.

### The Importance of Teams

Teams are groups of individuals who are charged with monitoring and supporting each step of Plan-Do-Check-Act. They can include ECE staff (for example, administrators and practitioners) and stakeholders (for example, community members, parents, technical assistance providers, and experts). In the Office of Planning, Research and Evaluation brief mentioned above, the authors (Metz and colleagues)

state the following: “Ideally, teams should be established at every level of a program or system or to target different aspects of an initiative. For example, for a complex initiative such as a state-wide implementation of an early childhood assessment, separate implementation teams may be established at the state, regional, district, and school levels to monitor and support the initiative.”<sup>24</sup>

The work of going from an idea to daily operations (in other words, from planning to doing) is done by teams of individuals, often called implementation teams. Teams have key responsibilities to guide the PDCA process, ensure implementation, engage community members, and create an environment conducive to implementation. Teams should include members who represent varied perspectives on the project, for example, from teaching young children to program administration to policy.

Teams are critical to success. Evidence suggests that the use of competent implementation teams can produce a higher rate of success. In one study, over 80 percent of the locations where implementation teams were used could sustain the initiative for six or more years. This contrasts with previous research in which implementation teams were not part of the implementation plan; for example, in one such study, only 14 percent of sites sustained the innovation.<sup>25</sup> As Higgins, Weiner, and Young state, “Implementation Teams have been called a new lever for organization change in education.”<sup>26</sup>

*An Integrated Stage-Based Framework for Implementation of Early Childhood Programs and Systems* provides detailed information on teams (for example, selection and membership, communication protocols, and meeting frequency). The brief uses the stages of implementation science, which closely mirror the Plan-Do-Check-Act cycle, as the framework.<sup>27</sup>

### Example of Teams

From 2007 to 2012, the New Hampshire Bureau of Special Education's federal State Personnel Development Grant—NH RESPONDS: Professional Development for Excellence in Education<sup>28</sup>—supported a statewide training and technical assistance network to build the capacity of ECE programs and K–12 schools to implement response-to-intervention (RTI) systems.<sup>29</sup> Teams were integral to the implementation of RTI at every level. They were complemented by a Statewide Advisory Board, which met quarterly and advised the leadership team on the direction, outcomes, and sustainability of the program.

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To produce socially significant impacts for children and families, it is important to include implementation teams throughout the implementation stages.

—Tamara Halle, Allison Metz, and Ivelisse Martinez-Beck, *Applying Implementation Science in Early Childhood Programs and Systems*<sup>23</sup>

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At the state level, there was a leadership team, as well as multiple capacity building work teams. The leadership team included representatives from the New Hampshire Department of Education, the University of New Hampshire's Institute on Disability, the New Hampshire Center for Effective Behavioral Interventions and Supports (intermediary organization), the Parent Information Center (intermediary organization), and an outside consulting firm. The team's purpose was to carry out activities; offer guidance to solve emerging issues faced by schools; ensure that activities were implemented; coordinate with related programs; and advise NH RESPONDS staff of the needs of children, teachers, administrators, principals, specialists, and early intervention personnel.

The capacity building work teams were responsible for carrying out grant activities and for alignment with similar initiatives. These four teams—Institutions of Higher Education, Early Childhood Education, Evaluation, and Secondary Transition Services—each had a group leader and five or more members. For specifics on the purpose and membership of each of the capacity building work teams, please see the Resources section of this guide.

At the intermediary level, district and school administrative unit (SAU) leadership teams coordinated and oversaw the program by supporting demonstration sites, created a plan to support hiring and retaining highly qualified staff, used data-based decision-making, and shared data with the program.

At the site level (schools and early childhood programs), collaboration (leadership) teams were responsible for ensuring that the RTI program was understood, implemented, and maintained site-wide. Specific implementation activities of these teams included identifying key problems, conducting a site analysis, revising the RTI program based on data, and communicating with staff and families.

Various resources were developed to support and monitor the teams, including the following examples:

- The Universal Collaborative Team Checklist is a 14-item checklist on membership, mission, roles, processes (such as decision-making), and planning that was used to self-assess the status of priority items associated with team functioning.
- The Early Childhood Collaborative Team Checklist is like the Universal Collaborative Team Checklist used at preschool sites. This resource measured how well the early childhood team perceived itself to be functioning and was administered twice annually in a preschool's initial year of participation.
- The Pre-K Leadership Checklist is used by the Preschool Leadership Team twice a year to monitor implementation of RTI.
- The NH RESPONDS ECE Summary of RTI Implementation was developed for site teams and project staff. Site teams used it to summarize process and outcome data and to provide an overview of implementation that informed discussions. Project staff used it as a tool to understand implementation across sites and to understand training and technical assistance needs.

For more information on the tools that New Hampshire developed, please see the Resources section.

## The Importance of Data and Monitoring

Throughout the PDCA cycle, data—both quantitative and qualitative—are used to identify where changes might be needed to drive decision-making and for feedback loops and communication across all levels. In other words, data are used to monitor the program. Starting with design and planning, and continuously throughout the life of the program, data should be continuously gathered, reported, and used at every level. Monitoring takes results, processes, and experiences (data) and uses them.<sup>30</sup>

Data and monitoring are essential parts of the continuous learning cycle. Damschroder and colleagues' review notes that "quantitative and qualitative feedback about the progress and quality of implementation accompanied with regular personnel and team debriefing before, during, and after implementation is one way to promote shared learning and improvements along the way."<sup>31</sup>

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Monitoring has four main purposes, including:<sup>32</sup>

- Learning and improving
- Providing accountability for resources used and results obtained
- Making informed decisions on the future of the program
- Promoting empowerment of those who benefit from the program

Monitoring should be iterative and integrated into the program from the start. It can generate early warnings when things are not going as planned. It informs both continuous improvement and adaptations made to activities. Monitoring can provide information needed to revisit decisions and change course.

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## Plan-Do-Check-Act<sup>33</sup>

There are numerous well-known and effective approaches to putting initiatives in place. We detail specifics of a four-step approach, the Plan-Do-Check-Act (PDCA) cycle. This straightforward approach calls for constant interaction and repetition among the steps to support continuous improvement. This dynamic and deliberate nonlinear process can instill sustainable change.

Figure 1. Plan-Do-Check-Act

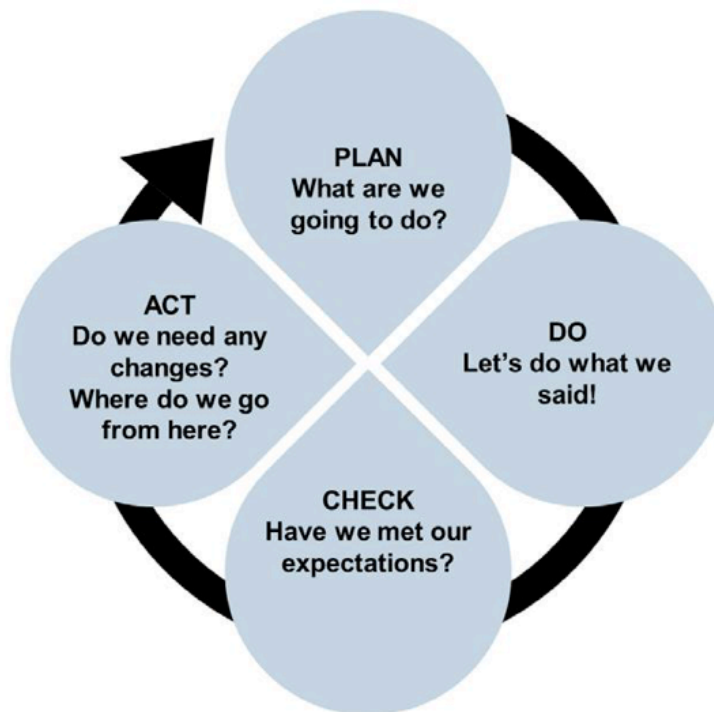


Image adapted from W. Edwards Deming Institute. (n.d.). PDCA cycle. Retrieved from <https://s-media-cache-ak0.pinimg.com/736x/f1/4f/89/f14f893719a44de5e45aaa470c262b05.jpg>



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Step	Actions
Plan	<ul style="list-style-type: none"> <li>▪ Identify needs and opportunities</li> <li>▪ Set your expectations</li> <li>▪ Define your basic plan to meet your needs and opportunities</li> <li>▪ Determine financial and personnel requirements and the schedule</li> </ul>
Do	<ul style="list-style-type: none"> <li>▪ Identify who is responsible and affected</li> <li>▪ Develop procedures and tools to fulfill objectives and meet the plan</li> <li>▪ Develop and provide training relevant to the plan and the people involved</li> <li>▪ Follow the procedures, processes, and tools</li> </ul>
Check	<ul style="list-style-type: none"> <li>▪ Assess our performance</li> <li>▪ Determine if we met objectives and targets</li> <li>▪ Did things work as planned and as expected</li> <li>▪ Identify any “root” causes</li> <li>▪ Determine corrective actions</li> </ul>
Act	<ul style="list-style-type: none"> <li>▪ Determine what, if anything, needs to be changed</li> <li>▪ Identify specific adjustments</li> <li>▪ Determine if we stay with our current plan or if we want to take on anything else<sup>34</sup></li> </ul>

## Examples of Plan-Do-Check-Act: Elements of State Quality Rating and Improvement Systems

States have recently begun to embed elements of PDCA into their QRIS policies and practices. According to Mathias, “States are envisioning the ‘I’ in QRIS”<sup>35</sup> and building continuous quality improvement processes into their systems. Some states have specifically included the Plan-Do-Check-Act cycle as part of their QRISs. Below are examples of ways that states, intermediaries, and direct-service providers make Plan-Do-Check-Act come to life in a QRIS.<sup>36</sup>

### State Level

- Created a state-level position that focused solely on strengthening PDCA at the state, intermediary, and provider levels.
- Included standards requiring providers to have policies and procedures (such as Plan-Do-Check-Act) for making ongoing improvements.
- Established a policy requiring that QRIS standards have multiple sources of evidence.

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- Ensured that the intermediary organization that operates the QRIS has two-way feedback loops that connect direct-service providers to the QRIS administrator.
- Brought multiple stakeholders to the QRIS planning and implementation process through service on committees. Examples of stakeholders include public agencies (child and family, education, and health and human services), child care resource and referral agencies, higher education, the professional development system, foundations, advocates, local schools, Head Start, and child care providers who represent the state's diverse demographics and geography.
- Acted on feedback from direct-service providers and changed policy. For example, providers were concerned about new requirements for staff credentials. The state office overseeing implementation investigated. The new requirement had caused a dramatic increase in the number of credential applications, which resulted in an increase in the time it took to get the credential. (The credential program was run by an intermediary.) Thus, direct-service providers would fail to meet the requirements. In response, the state changed the policy and allowed application rather than receipt of the credential, along with a one-year grace period, for the requirement. By having feedback loops and being flexible, the state modeled continuous quality improvement.
- Planned for the governor's transition and for significant staff turnover. Briefed incoming leadership about the goals of the state's early childhood system so there would be continued progress toward achievement of the state's goals.

## Intermediary Level

- Identified what data were needed to ensure that the communication loop between the QRIS administrator and direct-service programs was working; established procedures for the communication loop.
- Restructured access to trainings and trainers after reviewing data that revealed challenges in hiring highly qualified trainer candidates.
- Used research to identify what goods and services best support direct-service providers and then made those goods and services available to providers.
- Gathered data from coaches regarding the challenges and barriers that providers experience. Results showed that there was inconsistency between licensing requirements and QRIS standards for handwashing and diapering procedures. Providers were confused and frustrated. They become discouraged and disengaged from the QRIS and shared their experiences with other providers. These data were shared with the state. The decision was made to use licensing as the standard for handwashing and diapering.
- Provided the state with quantitative and qualitative data about the significant increase in the number of programs requesting assessment. (This resulted in the state expanding the intermediary's scope of work to accommodate the increased volume.)
- Solicited information from direct-service providers about the quality of support services.

## Direct-Service Level

- Used data from tools—such as self-assessments, valid and reliable observation instruments, and parent and staff satisfaction surveys—to create a plan for improvement and monitored changes.
- Accessed resources such as coaches, mentors, and consultants to support teachers.
- Secured financial resources—such as grants—needed to make improvements.
- Completed an annual survey to provide feedback to the training organization (intermediary).

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## Plan

The first step of PDCA is to *plan* or design the program. Important parts of planning include getting people ready for change, laying the groundwork among teams and systems, ensuring that the agency is ready, assessing evidence, obtaining leadership buy-in and support, and developing an evaluation framework.<sup>37</sup> Planning sets the direction for the program; a well-conceived plan is critical to success.

**Define who benefits and how:** Begin planning by focusing on who will benefit from the program. Why is this program needed? What is the purpose of the program? What problem or issue will the program address? Who will benefit from it? This is the rationale, the program’s reason for being. According to the National Partnership for Reinventing Government, “All program designs require clear, explicit identification of the primary beneficiaries and the specific benefits they can expect. Without this foundation, no rational program design methodology can be sustained.”<sup>38</sup>

**Define the desired result:** The result (or outcome) should be defined during the planning stage. What will result from the implementation of the program? What will be better because of the program? Be specific. Clearly state what the program will improve and who will be responsible. Describe what the program will change or improve, when it will be in place, and what the impact will be. Results are central to planning, implementing, monitoring, evaluating, reporting, and ongoing decision-making. Focusing on results rather than activities helps states better articulate their vision and support expected results. Results can help stakeholders better understand the impact that a particular program is to have.<sup>39</sup>

The table below provides examples of inadequate versus improved results statements.

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**Table 2. Effective Results Statements**

Inadequate Results Statement	Analysis of Inadequate Results Statement	Improved Results Statement
We will improve the quality of early childhood programs.	This result statement is vague and does not clearly state what will be different. How will you know when this has been achieved? Even if progress was achieved, does this kind of results statement provide opponents an opportunity to say that results were not as promised?	By the end of 2017, 75 percent of child care programs that participate in the subsidy program will be in one of the top two tiers of our QRIS.
All early childhood services need to use developmental screening.	This example does not specify a result, nor does it specify the setting, whom the screenings are for, or when they should happen. “Need to” is not measurable. “Use developmental screenings” to what end—training teachers? Are pediatricians considered an early childhood service?	All children who attend licensed child care programs will receive a developmental screening within the first 90 days of attendance.
Early childhood mental health services (ECMHS) will be coordinated.	This example does not provide specificity or clear direction about with whom ECMHS will coordinate, how coordination will happen, or by when this will occur. What is the measurable achievement?	By October 2018, training and support of early childhood mental health consultants in every county will result in a 15 percent increase in the number of counties that have mechanisms in place to coordinate services among early childhood mental health and early childhood programs.
By December 2017, expulsions will be reduced.	This example does not specify how the state will go about reducing expulsions, nor does it provide information about what settings are targeted: Children in any type of program? What age group?	By December 2017, there will be a 15 percent reduction in expulsions from licensed early childhood programs. This reduction will be achieved by increasing knowledge and supports using the Pyramid Model for Supporting Social and Emotional Competence in Infants and Young Children.

**Determine whether a particular program is the right fit.** An analysis of fit is critical to designing and implementing a successful program. One tool that can be helpful is the Hexagon Tool developed by Blase, Kiser, and Van Dyke at the National Implementation Research Network. It lays out six key areas that can be used as discussion topics to identify gaps and strengths, what needs exist, and next steps. See the Resources section of this guide for information on obtaining a copy of the Hexagon Tool.<sup>40</sup>

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**Table 3. The Hexagon Tool**

Element	Critical Questions
Needs of children and families—in other words, how well the program or practice might meet identified needs	<ul style="list-style-type: none"> <li>▪ Is there a need? How do you know?</li> <li>▪ Do parents and community members perceive a need? Do providers? Do policymakers?</li> <li>▪ What data indicate that there is a need?</li> <li>▪ Does a similar or related program already exist to meet this need?</li> </ul>
Fit with current initiatives, priorities, structures and supports, and parent and community values	<ul style="list-style-type: none"> <li>▪ How does the proposed program fit with the state’s current ECE initiatives?</li> <li>▪ How does it fit with state and local ECE priorities?</li> <li>▪ How does it fit with existing organizational structures?</li> <li>▪ How does it fit with community values, including the values of diverse cultural groups?</li> <li>▪ How does it fit with what families and children need?</li> <li>▪ Will the program’s implementation or outcomes be enhanced or diminished because of interaction with related programs?</li> </ul>
Resource availability for training, staffing, technology supports, curricula, data systems, and administration	<p>Are the following resources and supports available at all levels of the system (state, intermediary, and direct service)?</p> <ul style="list-style-type: none"> <li>▪ Staffing</li> <li>▪ Training</li> <li>▪ Data systems</li> <li>▪ Coaching and supervision</li> <li>▪ Administrative and system supports</li> <li>▪ Communications</li> <li>▪ Financing and budget</li> </ul>
Evidence indicating the outcomes that might be expected if the program or practices are implemented well	<ul style="list-style-type: none"> <li>▪ Is there evidence that this program is worth implementing?</li> <li>▪ Is it cost effective? What data are there on the program’s cost effectiveness?</li> <li>▪ How many studies have demonstrated positive results?</li> <li>▪ Are there similarities between the studies’ populations and our population? Did the study include the same cultural groups as our population?</li> <li>▪ Was the program effective; did it produce the intended results? Are those the results we want?</li> <li>▪ Is there ample and strong evidence to suggest that this program is a good use of our time and money—that well implemented, it will achieve the result we want?</li> </ul>

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Element	Critical Questions
Readiness for replication of the program, including expert assistance available, number of replications accomplished, examples available for observation, and how well the program is operationalized	<ul style="list-style-type: none"> <li>▪ Is expert or technical assistance available?</li> <li>▪ Are there strong examples (sites) where the program can be observed?</li> <li>▪ Have there been several replications of this program?</li> <li>▪ How well defined is the program and its features?</li> <li>▪ Are there operational definitions of the essential functions?</li> <li>▪ Do we know the core features that will make this program successful?</li> </ul>
Capacity to implement as intended and to sustain and improve implementation over time	<ul style="list-style-type: none"> <li>▪ Do we have the leadership at all levels (state, intermediary, and direct service) that can lead implementation and sustain the program?</li> <li>▪ Do we have the organizational supports, such as data systems, data-driven decision-making, and a supportive administrative environment, at all levels (state, intermediary, and direct service) to implement and sustain this program?</li> <li>▪ Do we have staff at all levels (state, intermediary, and direct service) that have the necessary minimum qualifications to implement the program?</li> <li>▪ Do we have staff at all levels (state, intermediary, and direct service) that will be open to the new program and willing and able to implement and sustain the program?</li> <li>▪ Can we make the necessary changes for success to the organization, financing, and data systems at all levels (state, intermediary, and direct service)?</li> </ul>

Adapted from National Implementation Research Network. (2013). *The hexagon tool: Exploring context*. Chapel Hill, NC.

## Do

The second phase of the PDCA cycle is doing—on-the-ground implementation. In this step, questions to ask include the following: How is it working? Are we on target with established timelines? What evidence do we have?

Documenting challenges as well as unexpected and positive findings is useful. Focus on training and professional development on the specific program or practice; coaching, supervision, and communities of practice; implementing; adapting; and monitoring and evaluation.<sup>41</sup>

In a review of various implementation processes, Meyers and colleagues<sup>42</sup> describe three tasks that occur within this step as well as questions to enable action.



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**Table 4. “Do” Tasks and Enabling Questions**

“Do” Task	“Do” Action Question
Provide needed ongoing technical assistance, coaching, and supervision to frontline providers	Do we have a sound plan in place to provide needed technical assistance?
Monitoring implementation	Are we assessing the strengths and limitations that occur during implementation? (See additional questions below.)
Creating feedback loops so there is an understanding of how things are moving forward	Is the feedback system rapid, accurate, and specific enough that successes can be recognized and changes to improve implementation be made quickly?

The answers to these questions may identify additional training needs, supports for managing the challenging parts of the program, conflicts that need to be resolved (such as administrative or scheduling issues), and necessary changes in program implementation.

Many initiatives fail for lack of study and reflection on what is actually being done and the results of having done it.<sup>43</sup> Observing, describing, and documenting are critical during this stage when key functions of programs are emerging. Seven questions that implementation teams can use to promote continuous improvement are noted below.

1. What does the program look like now?
2. Are we satisfied with how the program looks?
3. What would we like the program to look like?
4. What would we need to do to make the program look like that?
5. How will we know whether we’ve been successful with the program?
6. What can we do to keep the program like that?
7. What can we do to make the program more efficient and durable?<sup>44</sup>

Continuing to use data during this stage can help address barriers and develop systems solutions quickly rather than allowing problems to reemerge and reoccur.<sup>45</sup>

## Example of Action

The Public Health Department of Maricopa County, Arizona, used Plan-Do-Study-Act to make improvements in the reach of its Special Supplemental Nutrition Program for Women, Infants, and Children (WIC).<sup>46</sup> The county had seen a significant decline in women seeking WIC, with potential consequences of negative health outcomes (lower birth weights and lower cognitive development). As of June 2013, the program was at 68,711 participants. The Health Department team used PDSA to determine the cause and test improvements. A core team of WIC staff, county, and state stakeholders convened. They planned, identifying

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root causes and potential areas for improvements, and considered why the drop in WIC enrollment occurred. Using data to inform decisions, they made a plan of action and set a goal to increase the number of walk-in clients—72,500 cases by June 2014. Decisions and actions followed:

- Staffing schedules were changed to accommodate fluctuations in walk-in demand. For example, demand was higher during lunch hours, so more staff were scheduled from 11:00 a.m. to 1:00 p.m.
- Two clinics were changed and dedicated to seeing walk-in clients only.

In June of 2013, 14 months after the initiative began, Maricopa County's caseload was at its highest level since late 2012. At the time the study of these events was published, the caseload was on track and expected to hit the target of 72,500 cases by June 2014.

To read more about the work in Maricopa County, see the Resources section of this guide.

## Check

The purpose of the third phase of PDCA is to check on the results, review data, compare what has happened to what was planned and expected, and make decisions about needed improvements. Is the program going as planned? How do the data compare to what was expected? What worked? What did not work and why? What did you learn? Did anything surprise you? Could you make implementation more efficient? These questions are best answered by using data to track progress, monitor, and measure on a regular basis.

Even with a well-articulated plan, missteps and mistakes are likely. The key to progress after a mistake is what happens after a problem is identified. Leaders should gain an understanding of what happened and why and then correct the course. Document what happened. Be honest and transparent about what happened, what is being done to fix the problem, and what lessons have been learned. When things do not go according to plan, when results do not match expectations, or when results are not positive, it may require boldness and courage to acknowledge what happened and make changes.

## Example of Checking

An example of check is found in the work of the Nurse-Family Partnership (NFP). This home-visiting program for low-income first-time mothers had a system for collecting and reporting data that the MFP used throughout implementation in community settings. It provided information on how implementation of key features was going; whether there were indications of positive effects from the program; descriptive data on the target population; aspects of implementation such as frequency, duration, and content of home visits; data on program management practices (such as how often reflective supervision occurred); and other specific observable items (such as tobacco and alcohol use during pregnancy and results of developmental screenings).

The data system relied on information from the ground up—reports from every supervisor and nurse, on every home visit—and it allowed regional staff to recognize and resolve problems: “When patterns of concern are observed in data from many different implementing agencies, changes can be planned in the guidance provided to new agencies [and] the education required from all new NFP home visitors and supervisors.” This approach also elevated pervasive issues so that “they could then be addressed by systematically strengthening implementation supports.”<sup>47</sup>

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## Act

The fourth part of PDCA is acting—using what has been learned (in the check phase and throughout); deciding what actions should be taken to improve, making needed modifications; adapting, adopting or abandoning particular aspects of the plan; revising the plan; and continuing the PDCA cycle.

Questions to consider during this phase include the following: Does the plan need to be changed? What new opportunities have emerged? What is next? Are we ready to make the changes? As you make changes, be sure to celebrate the achievements.

This part should not be viewed as the final step. PDCA is a cyclical process that should be repeated continuously. With each modification, new lessons will be learned, and other changes will be needed. Remember, improvements themselves are changes, and when changes are made at the state level, they have a ripple effect on the intermediary and direct-service levels. A change made by a state or intermediary could affect policies, procedures, or decisions about resource allocation, hiring, or training of those “down the line.” Acknowledge that a systems-level change—even a small one—has implications for the other levels; seek to understand those implications and take them into consideration.

## Examples of Act

Several examples of act follow, focusing first on professional development and then on local coalition strategies.

### ECE Professional Development System Logic Model: Implementation Strategies and PDCA

In the March 2012 *Zero to Three* journal, Metz and Bartley<sup>48</sup> explained how implementation science could be used to close the research-to-practice gap and how adults at every level of systems change have responsibilities toward and contribute to the ultimate result of improved outcomes for children. The chart below, adapted from their article, provides an example of implementation of an early childhood professional development system.

Each level of a statewide program is represented, from provider and educators to the state. Strategies for how each population or group will get to the outcome (what must be implemented) are described in the second column. The third column was added to help state planners consider how Plan-Do-Check-Act could play out for each strategy. This chart could be modified into a template for planning and implementing, with additional columns for data and team responsibilities. As you review each level, consider what must happen during planning, doing, checking, and acting to make each strategy happen.

Note that all populations included in this table follow a Plan-Do-Check-Act cycle.

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**Table 5. Implementing Early Childhood Professional Development**

Population	Intervention Strategy (WHAT)	Intervention Outcomes
Children ages 0–5	ECE teachers skillfully implement effective early care and education strategies	<ul style="list-style-type: none"> <li>▪ High-quality early child care and education practices</li> <li>▪ Positive child outcomes</li> </ul>
Population	Implementation Strategy (HOW)	Implementation Outcomes
Early care educators	Provision of skillful, timely training, coaching, and performance assessment in supportive administrative environments organized by early care and education providers, networks, and leadership	Early care educators competently and confidently use effective early care and education strategies
Early care and education provider managers	<ul style="list-style-type: none"> <li>▪ Agreements with trainers, quality consultants, and technical assistance providers</li> <li>▪ Plans for release time for training, coaching, and ongoing consultation services</li> <li>▪ Installation of data systems to monitor fidelity</li> </ul>	Skillful and timely training, coaching, performance assessments, and supportive administrative environments for early care educators
Regional and state early care and education trainers, quality consultants, and technical assistance providers	Professional development system planners develop a standardized and centralized approach to professional development services to develop core knowledge and skills of professional development providers	Timely and skillful provision of services by regional or state early care and education trainers, quality consultants, and technical assistance providers
Early care and education policymakers, funders, and state leadership	<ul style="list-style-type: none"> <li>▪ Common mission for professional development in early care and education developed</li> <li>▪ Formal structures created to build policy-practice feedback loops</li> <li>▪ Changes in funding streams to support new functions and new relationships</li> <li>▪ Collaborative partnerships to build professional development system infrastructure</li> <li>▪ Fidelity and outcome data systems developed and maintained</li> </ul>	Skillful leadership and planning for professional development systems to ensure high-quality, consistent training for early care and education professional development consultants and technical assistance providers

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## Community-Level Coalitions

“The pioneers in statewide systems building have found that a statewide early childhood system is better achieved, and young children and their families are best served, when there are direct linkages and alignment between the state and local systems as opposed to the state and local communities working in isolation.”<sup>49</sup>

The two examples below, from Maryland and Iowa, provide information on each state’s strategy of building local-level coalitions to strengthen their state’s early childhood system.

**Maryland’s Local Early Childhood Advisory Councils:**<sup>50</sup> Twenty-four local early childhood advisory councils (LECACs) are part of Maryland’s efforts to create a seamless education reform agenda, which includes young children’s school readiness. Local early childhood councils develop local action agendas to support Maryland’s goals and strategies for quality early childhood education.

The local councils grew out of the strategic planning for Maryland’s Race to the Top–Early Learning Challenge, which identified a local leadership gap. The Annie E. Casey Foundation and the Maryland State Department of Education engaged in a yearlong public-private planning process. The Casey Foundation’s results-based leadership tools and skills supported the formation of LECACs and local action plans. The mission of the LECACs is to implement the action plans that were developed in support of school readiness. Through 2015, the focus is on supporting school readiness for specified populations of children, including children from low-income families, children with disabilities, and English-language learners.

Each local advisory council created its own action plan. Local councils use resources to support work such as professional development for early childhood professionals; family engagement and support from health care professionals on strategies such as Reach Out and Read; early childhood participation in EXCELS, the Maryland QRIS; and overall community engagement. The local advisory councils submit annual evaluation reports and quarterly progress reports on the action plans. Regional leadership sessions were initially conducted by the Annie E. Casey Foundation. Booster sessions, also conducted by the Annie E. Casey Foundation, were to be held in 2015 to focus on what was accomplished, what remained to be done, and how sustainability would be achieved.

For more information on Maryland’s local early childhood advisory councils, please refer to the Resources section of this guide.

**Early Childhood Iowa:**<sup>51</sup> In 2001, Iowa leaders founded Early Childhood Iowa (ECI) Stakeholders, an alliance of stakeholders focused on building a coordinated state early childhood system. In 2010, the Iowa General Assembly passed the Early Childhood Iowa Initiative, merging a preexisting board and ECI Stakeholders into one coordinated state and local system-building effort identified as Early Childhood Iowa. This entity now serves as the state’s early childhood advisory council and promotes and invests in a comprehensive early childhood system that improves outcomes for children. ECI was founded on the premise that communities and state government can work together to improve child well-being by increasing the efficiency and effectiveness of early care, education, health, and human services provided to families.

Local strategies and performance results in ECI’s 2014 annual report include the following: 100 percent of children identified with elevated lead levels received follow-up service; 88 percent of children who received dental screenings were cavity free; 100 percent of those screened who needed follow-up services received them; 98 percent of parents reported an increase in talking with their children about new words in stories; 98 percent of programs that received emotional and behavioral support reported an increase in supporting children demonstrating emotional and behavioral challenges; and 85 percent of professional development opportunities resulted in ratings, certificates, credentials, or renewals.<sup>52</sup>

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A full set of resources for local system development is available online. These resources include the following:

- Board supports
- Budget templates
- Information for fulfilling responsibilities related to Levels of Excellence (a rating system for ECI area boards)
- *Achieving Results Resource Guide*
- Toolkits
- ECI's annual reports

For more on Early Childhood Iowa, please refer to the Resources section of this guide.

To provide an illustration of how change at the state level affects needed change for the direct-service provider, consider the following scenario.

A state identified new data indicating that the quality of infant/toddler classrooms across the state is poorer than previously understood. A decision was made to redirect professional development program resources to provide more coaching and education for infant/toddler teachers.

This shift required intermediary organizations to make changes. As a first step toward providing more coaching for infant/toddler teachers, these organizations needed to recruit and hire coaches with knowledge and expertise in infant/toddler programming. Additionally, they need a method for prioritizing the infant/toddler classrooms in their work with direct-service providers. The community college system agreed to add classes for infant/toddler teachers and to hold them at places and times that are conducive to the schedule of a full-time teacher. This meant locating classes in community-based facilities rather than on campus. To do this, outreach was needed to identify and secure convenient locations and appropriate teaching spaces. It also meant identifying specifically what infant/toddler content the community college needed to provide. Data were needed to inform this decision. Did the community college have faculty qualified to provide the content needed?

At the direct-service-provider level, as program directors gained a better understanding of what high-quality infant/toddler practices looked like and what qualifications were necessary, they considered changes to their programs' teacher recruitment and hiring practices, changes in infant/toddler teacher position descriptions, and changes for teacher's self-assessments and the performance evaluation process. Is there a need for new or different classroom materials? Does the program have the right equipment and schedule to facilitate high-quality interactions?



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## Resources

### Data

[“About ECDC”](#) (Early Childhood Data Collaborative, n.d.)

This website provides resources on data use, including a collection of case studies about states that are using early childhood education data for continuous improvement.

### Drivers and Teams

[“Implementation Drivers: Action Plan”](#) (State Implementation and Scaling-Up of Evidence-Based Practices Center, 2013)

This tool was created for teams to use in developing an action plan and exploring questions related to each driver. It provides a template for recording and tracking activities, timeframes, and responsible parties.

[Implementation Drivers: Assessing Best Practices](#) (Karen Blasé, Melissa van Dyke, & Dean Fixsen, 2013)

This tool for assessing best practices can be used at any stage in the implementation process.

[Implementation Drivers: Team Review and Planning](#) (Melissa Van Dyke, Karen Blase, Barbara Sims, & Dean Fixsen, 2013)

This planning tool is designed to help implementation teams have in-depth discussions about each driver in preparation for action planning. It also identifies best practices.

### Federal, State, and Local Initiatives

[Confronting the Quiet Crisis: How Chief State School Officers Are Advancing Quality Early Childhood Opportunities](#) (Council of Chief State School Officers, 2012)

Though this document is written for chief state school officers, it addresses questions that state leaders may have as they work to develop strong early childhood programs: How can they make the case for early childhood investments in today’s state budget context? How can they best lead on early childhood education when, in most states, responsibility for managing programs is spread between education, human service, and health agencies and federally managed Head Start and Early Head Start programs? The report highlights leadership in five states: Maryland, Minnesota, New Jersey, Oklahoma, and Rhode Island.

[Early Childhood Development](#) (Office of the Deputy Assistant Secretary for Early Childhood Development, Administration for Children and Families, U.S. Department of Health and Human Services, 2015)

This issue includes an article on the Home Visiting Collaborative Improvement and Innovation Network and its use of Plan-Do-Study-Act (p. 8).

[Early Childhood Iowa](#) (Early Childhood Iowa, n.d.)

This website includes a description of the Early Childhood Iowa initiative and information on local and state system development and Iowa’s early childhood legislation, strategic plan, and state board.

[Home Visitation Program: Continuous Quality Improvement Plan](#) (Jackie Newson, and Katie Oscanyan, 2014)

This document was created for the West Virginia Department of Health and Human Resources’ Home Visitation Program. It provides information about continuous quality improvement (CQI) teams, including the purpose of CQI teams, the roles and responsibilities of state and local CQI team members, data collection and data systems, reporting, CQI methodology, communications, CQI process maps, and Plan-Do-Study-Act examples and worksheets.

# Early Childhood Systems Building Resource Guide: Program Design and Implementation

[“Local Systems Building Through Coalitions”](#) (Karen Ponder, 2015)

This chapter, part of the BUILD Initiative’s e-book, [\*Rising to the Challenge: Building Effective Systems for Young Children and Families\*](#), provides information from eight states that used local coalitions to engage local leaders in expanding their system planning in service of better outcomes for children and families.

[\*Rising to the Challenge: The Strategies of Social Service Intermediaries\*](#) (Lori Delale-O’Connor, and Karen E. Walker, 2012)

This report addresses the valuable role of intermediary organizations within the social service field. It highlights the common challenges they face (such as connecting to larger trends and policies) and the strategies that are being used to resolve them. The report concludes with lessons learned and recommendations that could be used by intermediary organizations as well as their funders and partners.

[\*Statewide Implementation of Child and Family Evidence-Based Practices: Challenges and Promising Practices\*](#)

(Eboni Howard, 2012)

This paper provides detail on the importance and challenges of implementing evidence-based practices in human-service fields. It includes state examples, lessons learned, and resources.

[“Statewide Initiatives: Early Learning Performance Funding Project”](#) (Florida Office of Early Learning, n.d.)

This website includes descriptions of statewide initiatives such as CLASS Program Assessment, developmental screening, and the School-Age Network.

[“We Influence Change”: Applying PDSA to Increase the Reach of WIC within the Maricopa County Department of Public Health](#) (Eileen Eisen-Cohen, 2015)

This study details how and why the Women, Infants and Children Program of Maricopa County, Arizona, used Plan-Do-Study-Act to identify the root cause of the decline in its caseload and to plan for and implement improvements that would result in increasing its monthly caseload from 67,000 to 72,500.

## Implementation Science

[Active Implementation Hub](#) (National Implementation Research Network, n.d.)

This website includes lessons, videos, and a resource library on implementation including such topics as drivers, teams, and stages.

[\*Measuring Implementation of Early Childhood Interventions at Multiple System Levels\*](#) (Diane Paulsell, Ann M. Berghout Austin, and Maegan Lokteff, 2013)

This brief discusses the importance of assessing implementation at different levels: national, state, community intermediary, direct service, and recipient (child and family). It includes suggestions for tools to assess implementation at these levels. In addition to implementation strategies and outcomes for each level, two examples of early childhood programs are highlighted (an infant/toddler quality improvement initiative and a home visiting program). Implementation teams are discussed, along with examples of how these teams use data across levels. The authors include implications for program developers, policymakers, and researchers.

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[“Toward an Evidence-Based System for Innovation Support for Implementing Innovations with Quality: Tools, Training, Technical Assistance, and Quality Assurance/Quality Improvement”](#) (Abraham Wandersman, Victoria H. Chien, and Jason Katz, 2012)

This article argues that implementation of programs or innovations requires support at all levels—national, state, local, community, and direct service—and that the gap between research and practice on innovation support needs to be closed if programs are to achieve outcomes. The authors discuss connections among four types of support: tools, training, technical assistance, and quality assurance and quality improvement. They also provide an overview of one model, the “Getting to Outcomes” framework, which aligns with Plan-Do-Check-Act.

## Leadership

[Adaptive Leadership Toolkit](#) (American Public Human Services Association, n.d.)

This toolkit was designed to help identify and develop adaptive leadership skills. It includes reflective questions to help individuals consider their own and others’ adaptive leadership skills as well as a process for identifying areas to strengthen, a self-assessment, and questions to help with next steps.

[The Practice of Adaptive Leadership: Tools and Tactics for Changing Your Organization and the World](#) (Ron Heifetz, Marty Linsky, and Alexander Grashow, 2009)

This guide provides practical, concrete information to help develop adaptive leadership skills. It includes stories, tools, cases, and worksheets.

[“The Work of Leadership”](#) (Ronald Heifetz, and Donald L. Laurie, 1997)

This article describes the importance of adaptive leadership, the challenges of adaptive work, and includes specific actions and behaviors leaders need to be successful in tackling adaptive challenges.

## Planning Tools for Building Consensus

[Lesson 1: The Hexagon Tool - Exploring Context](#) (National Implementation Research Network, 2013)

This tool helps states, communities, and agencies systematically evaluate new and existing interventions based on six broad factors: needs, fit, resource availability, evidence, readiness for replication, and capacity to implement. This tool can help teams have discussions and make decisions based on information from numerous sources.

[Multi-Attribute Consensus Building Tool](#) (Vitaliy Shyyan, Laurene Christensen, Martha Thurlow, and Sheryl Lazarus, 2013)

This tool is used for building consensus through participatory decision-making. Its quantitative process helps large and small groups discuss and weigh items and either reach consensus or identify the sources of differences in opinions. This tool could be useful in building state capacity and identifying priorities.

## State Examples

[“Early Childhood Implementation Checklist/Tools”](#) (New Hampshire Department of Education, n.d.)

This website includes the tools developed by New Hampshire’s Department of Education for teams to use in conducting self-assessments and to monitor the status of action items.

[“Maryland Early Childhood Advisory Council \(ECAC\)”](#) (Maryland State Department of Education, n.d.)

This web page includes reports, presentations, project abstracts, frequently asked questions, and many other documents related to Maryland’s Local Early Childhood Advisory Councils.

# Early Childhood Systems Building Resource Guide: Program Design and Implementation

[\*Wisconsin Pyramid Model for Social and Emotional Competence: 2015 Annual Report\*](#) (Wisconsin Early Childhood Collaborating Partners, 2015)

This annual report describes Wisconsin's work to build an infrastructure to support implementation of the Pyramid Model framework. The Pyramid Model is "a framework for implementing a multi-leveled and responsive system of support to enhance the development of infants, toddlers, and young children, especially in the social and emotional domain." The report includes specifics about use of teams at different levels of implementation (state and direct-service levels); Wisconsin's framework for training; use of data at the state, regional, and local levels; supports provided to direct-service providers, including coaching and technical consultation; and administrative supports and their results.

## Toolkits and Guides

[\*A Guide to the Implementation Process: Stages, Steps and Activities\*](#) (Barbara Smith, Joicey Hurth, Lynda Pletcher, Evelyn Shaw, Kathy Whaley, Mary Peters, and Glen Dunlap, 2014)

This 15-page guide concisely outlines specific steps for state leadership, intermediary organizations, and site-level teams for each stage of implementation.

[\*Getting to Outcomes: 10 Steps for Achieving Results-Based Accountability\*](#) (Shelley H. Wiseman, Matthew Chinman, Patricia A. Ebener, Sarah B. Hunter, Pamela Imm, and Abraham Wandersman, 2007)

This document is a summary of the Getting to Outcomes 2004: Promoting Accountability Through Methods and Tools for Planning, Implementation, and Evaluation manual. It provides a step-by-step overview of the 10-step process, from choosing a problem or problems to focus on to considering how to keep a successful program going. The steps are designed to support the planning, implementation, and evaluation of effective programs.

[\*Getting to Outcomes 2004: Promoting Accountability Through Methods and Tools For Planning, Implementation, and Evaluation\*](#) (Matthew Chinman, Pamela Imm, and Abraham Wandersman, 2004)

This manual provides guidance to agencies, schools, and community coalitions as they plan, implement, and evaluate their own substance-abuse programs using the Getting to Outcomes process. Although the subject matter is substance abuse, the guidance on planning, implementing, and evaluating is relevant to other social programs.

[\*Implementation of Programme and Policy Initiatives: Making Implementation Matter: Better Practice Guide\*](#) (Australian Government, Department of the Prime Minister and Cabinet, 2006)

This guide addresses the skills, effort, and challenges involved in turning a policy idea into an outcome. It includes best practice considerations for implementation, sections on planning and development, and a several checklists for senior program developers.

[\*"Implementing Evidence-Informed Practice: A Practical Toolkit"\*](#) (Ontario Centre of Excellence for Child and Youth Mental Health, 2013)

This toolkit contains practical strategies and resources for planning and implementing a program. It addresses building leadership support, engaging stakeholders, and managing and leading change.

# Early Childhood Systems Building Resource Guide: Program Design and Implementation

[\*Implementing Parenting Interventions in Early Care and Education Settings: A Guidebook for Implementation\*](#) (Tamara Halle, Diane Paulsell, Sarah Daily, Anne Douglass, Shannon Moodie, and Allison Metz, 2015)

This guidebook provides a description of the steps needed for successfully planning and implementing a parenting intervention. It provides information for the state, intermediary, and program levels, as well as a glossary of terms, implementation resources, and checklists of implementation milestones by implementation stage.

[“Toolkits”](#) (California Social Work Education Center, n.d.)

This web page has many online toolkits, including implementation toolkits, the Birth to Six Toolkit, the Family Finding and Engagement Toolkit, the Father Engagement and Father Involvement Toolkit, and the Team Decision Making Toolkit. The section on implementation toolkits includes several resources on defining and planning a program.

[“Toolkits”](#) (Community Tool Box, Work Group for Community Health and Development, University of Kansas, n.d.)

This online resource was developed for those working to bring about social change and build healthy communities. The toolkit has 16 sections. It includes a range of topics such as assessing needs, developing a framework or model of change, developing an intervention, and evaluating an initiative.

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**CHILD CARE**  
State Capacity Building Center



ADMINISTRATION FOR  
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